APRIL/MAY 2025

23PCS41 — INTERNET OF THINGS

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

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1. What is Internet of Things?
2. Name the four layers of the IoT architecture.
3. What is electric charge?
4. Define : Pulse Width Modulation.
5. What is Arduino IDE?
6. What are the data types used in Arduino programming?
7. Differentiate between an analog and a digital sensor.
8. How do you interface an LED with Arduino?

9. What is the ESP8266 NODEMCU Wi-Fl module?

10. Define the term Thing Speak.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Discuss on the evolution of IoT.

Or

(b) What are some challenges in developing IoT application? Explain.

12. (a) Describe the concept of binary calculations in IoT systems.

Or

(b) What are logic chips, and why are they important in IoT? Discuss.

13. (a) Write the basic syntax of Arduino programming.

Or

(b) Discuss on conditional statements in Arduino programming.

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14. (a) Describe how to interface an ultrasound sensor with Arduino.

Or

(b) Discuss on the working principle of a buzzer.

15. (a) Describe the process of transmitting sensor data from the NodeMCU to Thing Speak.

Or

(b) List out the difference between various IoT cloud platforms, including Thing Speak.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the technologies involved in IoT and their roles.

17. Describe the role of microcontrallers and multipurpose Computers in IoT systems.

18. Describe how to use types, variables and constants in Arduino programming.

19. Explain how to interface and use a temperature sensor with Arduino.

20. Illustrate how to program NODEMCU using the Arduino IDE.

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